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APPLICATION NO.	FILING DATE	FIRST NAMED IN	IVENTOR		ATTORNEY DOCKET NO.
09/462,283 —	03/29/00	KOOPS			2345/108
I 026646 KENYON & KENYON ONE BROADWAY NEW YORK NY 10004		IM52/0731		EXAMINER	
				AHMET ART UNIT	PAPER NUMBER
omsa 1014k MA	10004			1746 DATE MAILED:	g
					07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

	Application No.	Applicant(s)
O#*** 4 4 4	09/462,283	KOOPS, HANS WILFRIED PETE
Office Action Summary	Examiner	Art Unit
	Shamim Ahmed	
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet will	th the correspondence address
A SHORTENED STATUTORY PERIOD FOR REP THE MAILING DATE OF THIS COMMUNICATION - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a re - If NO period for reply is specified above, the maximum statutory perior - Failure to reply within the set or extended period for reply will, by statu - Any reply received by the Office later than three months after the mailinearned patent term adjustment. See 37 CFR 1.704(b). Status	4. 1.136(a). In no event, however, may a re pply within the statutory minimum of thirty d will apply and will expire SIX (6) MONT	(30) days will be considered timely.
20) This are a summarious off 05		
2D) 🖂	his action is non-final.	
3) Since this application is in condition for allow closed in accordance with the practice under	vance except for formal matte r Ex parte Quayle 1935 C.D.	ers, prosecution as to the merits is
Disposition of Claims	, <u>4</u> , 1000 O.D.	· ++, +00 U.G. 213.
4) \boxtimes Claim(s) $7-14$ is/are pending in the applicatio	n.	
4a) Of the above claim(s) is/are withdra		
5) Claim(s) is/are allowed.	and the consideration.	
6)⊠ Claim(s) <u>7-14</u> is/are rejected.		
7) Claim(s) is/are objected to.		
8) Claim(s) are subject to restriction and/o	or election requirement	
Application Papers	and the state of t	
9)☐ The specification is objected to by the Examine	r.	
10) The drawing(s) filed on is/are: a) accept	oted or h) objected to by the	Evening
Applicant may not request that any objection to the	e drawing(s) be held in abeyance	Examiner.
11) The proposed drawing correction filed on	is: a) ☐ approved b) ☐ disa	introved by the Francis
If approved, corrected drawings are required in rep	ly to this Office action.	pproved by the Examiner.
12) The oath or declaration is objected to by the Exa	aminer.	
riority under 35 U.S.C. §§ 119 and 120		
13) Acknowledgment is made of a claim for foreign	priority under 35 U.S.C. § 1	19(a)-(d) or (f)
a)[_] All b)[_] Some * c)[_] None of:		(4) (4) (7)
1. Certified copies of the priority documents	have been received.	
Certified copies of the priority documents	have been received in Appli	cation No
Copies of the certified copies of the priority application from the International Bure * See the attached detailed Office action for a list o	ty documents have been rec	eived in this National Stage
14)☐ Acknowledgment is made of a claim for domestic	n the certified copies not rece	eived.
14) Acknowledgment is made of a claim for domestic a) The translation of the foreign language prov	isional application has be	
Toknowledgment is made of a claim for domestic	priority under 35 U.S.C. &&	received. 120 and/or 121
	. ,	120 aliu/01 [2].
 Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6&7</u> 	4) Interview Sumn 5) Notice of Inform 6) Other:	nary (PTO-413) Paper No(s) nal Patent Application (PTO-152)
stent and Trademark Office 326 (Rev. 04-01) Office Action	on Summary	

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DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed March 29, 2000 and January 05, 2000 contain duplicate listing of references. Accordingly, the duplicate references are Canceled out from one of the listing.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brenner et al (XP-002058725) in view of Eguchi et al (Japanese Journal of Applied Physics) and further in view of Vollenbroek et al (USP 4,704,347).

Brenner et al describe a process to form an optoelectronic device, wherein a polymer is exposed by using an etching mask and then the unexposed regions are filled with monomers by gas-phase diffusion process (see page 159 and 161-162). Brenner et al fail to teach the monomer is organometallic compound. However, Eguchi et al teach a fabrication process of an optical waveguide with gradient index polymer, wherein monomers of organometallic compound with a lower refractive index are diffused into a gel containing substrate for low optical losses at the waveguide connection (page 2232). So, it would have been obvious to one having ordinary skill in the art to employ Eguchi

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et l's teaching into Brenner et al's process for reducing the optical loss of the optical waveguide as taught by Eguchi et al.

As to claim 8, modified Brenner et al disclose that the polymer resist layer is polymethyl methacrylate (PMMA) but fail to teach the patternable polymer layer is composed of novolak. However, Vollenbroek et al teach that photoresist layer composed of novolak has an advantage over PMMA layer, such as novolak has a considerable higher resistance to etching plasmas than the PMMA (col.2, lines 47-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of claimed invention to employ Vollenbroek et al's teaching into the combined Brenner et al's method by replacing PMMA resist with novolak resist because novolak has considerably higher resistance to etching plasmas than PMMA as taught by Vollenbroek et al.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baker et al (4,824,522) disclose a fabrication process of polymer waveguides, wherein the pattern is transferred through the polymer layer by exposing the layer to a reactive ion etching; Lebby et al (5,116,461) disclose a method, wherein an optical medium of polymer is etched to form trenches and Hammer et al (5,102,776) teach that novolak resist is more sensitive than PMMA (col.3, lines 61 – col4, line 3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929. The examiner can normally be reached on M-F (7:00-5:30) Every Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Shamim Ahmed Examiner Art Unit 1746

SA July 28, 2001

> RANDY GULAKOWSKI SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 1760